1. A method for forming an etched silicon layer comprising:

providing a first substrate having formed thereover a first silicon layer;

etching the first silicon layer to form an etched first silicon layer while employing a plasma etch method employing a plasma reactor chamber in conjunction with a plasma etchant gas composition which upon plasma activation provides at least one of an active bromine containing etchant species and an active chlorine containing etchant species, wherein within the plasma etch method:

(1) a cleaned plasma reactor chamber is seasoned to provide a seasoned plasma reactor chamber having a seasoning polymer layer formed therein;

(2) the first silicon layer is etched to form the etched first silicon layer within the seasoned plasma reactor chamber; and

(3) the seasoning polymer layer is cleaned from the seasoned plasma reactor chamber to provide the cleaned plasma reactor chamber after etching the first silicon layer to form the etched first silicon layer within the seasoned plasma reactor chamber, prior to etching a second silicon layer to form an etched second silicon layer formed over a second substrate within the plasma reactor chamber while employing the plasma etch method in accord with (1), (2) and (3).

2. The method of claim 1 wherein the substrate is employed within a microelectronic fabrication selected from the group consisting of integrated circuit microelectronic fabrications, ceramic substrate microelectronic fabrications, solar cell optoelectronic microelectronic fabrications, sensor image array optoelectronic microelectronic fabrications and display image array optoelectronic microelectronic fabrications.

3. The method of claim 1 wherein the silicon layer is selected from the group consisting of

monocrystalline silicon layers, polycrystalline silicon layer and amorphous silicon layers.

4. The method of claim 1 wherein:

the silicon layer is masked with a mask layer; and

the mask layer is selected from the group consisting of silicon containing dielectric hard mask layers and photoresist mask layers.

5. The method of claim 1 wherein the seasoning polymer layer is formed of a material selected from the group consisting of:

silicon and bromine containing seasoning polymer materials;

silicon, bromine and oxygen containing seasoning polymer materials;

silicon and chlorine containing seasoning polymer materials;

silicon, chlorine and oxygen containing seasoning polymer materials;

silicon, bromine and chlorine containing seasoning polymer materials; and

silicon, bromine, chlorine and oxygen containing seasoning polymer materials.

6. The method of claim 1 wherein the seasoning method is selected from the group consisting of dummy wafer seasoning methods, product wafer in-situ seasoning methods and waferless seasoning methods.

7. A method for forming an etched monocrystalline silicon layer comprising:

providing a first substrate having formed thereover a first monocrystalline silicon layer;

etching the first monocrystalline silicon layer to form an etched first monocrystalline silicon layer while employing a plasma etch method employing a plasma reactor chamber in conjunction with a plasma etchant gas composition which upon plasma activation provides at least

one of an active bromine containing etchant species and an active chlorine containing etchant species, wherein within the plasma etch method:

(1) a cleaned plasma reactor chamber is seasoned to provide a seasoned plasma reactor chamber having a seasoning polymer layer formed therein;

(2) the first monocrystalline silicon layer is etched to form the etched first monocrystalline silicon layer within the seasoned plasma reactor chamber; and

(3) the seasoning polymer layer is cleaned from the seasoned plasma reactor chamber to provide the cleaned plasma reactor chamber after etching the first monocrystalline silicon layer to form the etched first monocrystalline silicon layer within the seasoned plasma reactor chamber, prior to etching a second monocrystalline silicon layer to form an etched second monocrystalline silicon layer formed over a second substrate within the plasma reactor chamber while employing the plasma etch method in accord with (1), (2) and (3).

8. The method of claim 7 wherein the substrate is employed within a microelectronic fabrication selected from the group consisting of integrated circuit microelectronic fabrications, ceramic substrate microelectronic fabrications, solar cell optoelectronic microelectronic fabrications, sensor image array optoelectronic microelectronic fabrications and display image array optoelectronic microelectronic fabrications.

9. The method of claim 7 wherein:

the first monocrystalline silicon layer is masked with a mask layer; and

the mask layer is selected from the group consisting of silicon containing dielectric hard mask layers and photoresist mask layers.

10. The method of claim 7 wherein the seasoning polymer layer is formed of a material selected

from the group consisting of:

silicon and bromine containing seasoning polymer materials;

silicon, bromine and oxygen containing seasoning polymer materials;

silicon and chlorine containing seasoning polymer materials;

silicon, chlorine and oxygen containing seasoning polymer materials;

silicon, bromine and chlorine containing seasoning polymer materials; and

silicon, bromine, chlorine and oxygen containing seasoning polymer materials.

11. The method of claim 7 wherein the seasoning method is selected from the group consisting of dummy wafer seasoning methods, product wafer in-situ seasoning methods and waferless seasoning methods.

12. A method for forming an etched polycrystalline silicon layer comprising:

providing a first substrate having formed thereover a first polycrystalline silicon layer;

etching the first polycrystalline silicon layer to form an etched first polycrystalline silicon layer while employing a plasma etch method employing a plasma reactor chamber in conjunction with a plasma etchant gas composition which upon plasma activation provides an active bromine containing etchant species, wherein within the plasma etch method:

(1) a cleaned plasma reactor chamber is seasoned to provide a seasoned plasma reactor chamber having a seasoning polymer layer formed therein;

(2) the first polycrystalline silicon layer is etched to form the etched first polycrystalline silicon layer within the seasoned plasma reactor chamber; and

(3) the seasoning polymer layer is cleaned from the seasoned plasma reactor chamber to provide the cleaned plasma reactor chamber after etching the first polycrystalline silicon layer to form the etched first polycrystalline silicon layer within the seasoned plasma

reactor chamber, prior to etching a second polycrystalline silicon layer to form an etched second polycrystalline silicon layer formed over a second substrate within the plasma reactor chamber while employing the plasma etch method in accord with (1), (2) and (3).

13. The method of claim 12 wherein the substrate is employed within a microelectronic fabrication selected from the group consisting of integrated circuit microelectronic fabrications, ceramic substrate microelectronic fabrications, solar cell optoelectronic microelectronic fabrications, sensor image array optoelectronic microelectronic fabrications and display image array optoelectronic microelectronic fabrications.

14. The method of claim 12 wherein:

the polycrystalline silicon layer is masked with a mask layer; and

the mask layer is selected from the group consisting of silicon containing dielectric hard mask layers and photoresist mask layers.

15. The method of claim 12 wherein the seasoning polymer layer is formed of a material selected from the group consisting of:

silicon and bromine containing seasoning polymer materials;

silicon, bromine and oxygen containing seasoning polymer materials;

silicon and chlorine containing seasoning polymer materials;

silicon, chlorine and oxygen containing seasoning polymer materials;

silicon, bromine and chlorine containing seasoning polymer materials; and

silicon, bromine, chlorine and oxygen containing seasoning polymer materials.

16. The method of claim 12 wherein the seasoning method is selected from the group consisting

of dummy wafer seasoning methods, product wafer in-situ seasoning methods and waferless seasoning methods.